No. 202100353

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Colorado State University Research Foundation

Whereas, THERE HAS BEEN PRESENTED TO THE

Administrator of the Agricultural Marketing Service

An application requesting a certificate of protection for an alleged novel variety of sexually reproduced, asexually reproduced, or tuber propagated plant, the name and description of which are contained in the application and exhibits, a copy of which is hereunto annexed and made a part hereof, and the various requirements of law in such cases made and provided have been complied with, and the title thereto is, from the records of the PLANT VARIETY PROTECTION OFFICE, in the applicant(s) indicated in the said copy, and whereas, upon due examination made, the said applicant(s) is (are) adjudged to be entitled to a certificate of plant variety protection under the law.

Now, therefore, this certificate of plant variety protection is to grant unto the said applicant(s) and the successors, heirs or assigns of the said applicant(s) for the term of TWENTY years from the date of this grant, subject to the payment of the required fees and periodic replenishment of viable germplasm material of the variety in a public repository as provided by law, the right to exclude others from selling the variety, or offering it for sale, or reproducing it, or importing it, or exporting it, or conditioning it for propagation, or stocking it for any of the above purposes, or using it in producing a hybrid or different variety there from, to the extent provided by the PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PLANT VARIETY PROTECTION ACT • UNITED STATES DEPARTMENT OF AGRICULTURE •

POTATO

'Rocky Mountain Russet'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the* ***City of Washington, D.C.*** *this nineteenth day of January, in the year* ***two thousand twenty three***.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Administrator
Agricultural Marketing Service

U.S. Department of Agriculture
Agricultural Marketing Service, Science & Technology Program
Plant Variety Protection Office

US Plant Variety Protection Report
Potato Variety 'Rocky Mountain Russet' PV Number: 202100353

Owner / Applicant / Organization

Colorado State University Research Foundation

PO Box 483

Fort Collins, CO 80522

United States

Tel:

Fax:

Email:

Owner Representative / Agent

David Holm

0249 East County Road 9 North

Center, CO 81125

United States

Tel: (719) 480-2511

Fax:

Email: david.holm@colostate.edu

Experimental Name: CO05068-1RU

Rocky Mountain Russet

Variety Name:

Crop Kind: Potato

Filing Date : 05/24/2021

Application Status: Application Submitted and Ready for Preliminary Review and Filing Letter

Application Status Code: AS

ST470 Main

1. Genus and Species name of crop

Solanum tuberosum L.

2. Family name (Botanical)

Solanaceace

3.Is the variety a first generation hybrid?

Yes

4. Does the variety contain any Transgenes?

No

5. Does the owner specify that seed of this variety be sold only as a class of certified seed? (see section 83(a) of the plant variety protection act)

No

6. Has the variety (including any harvested material) or a hybrid produced from this variety been sold, disposed of, transferred, or used in the U.S. or other countries?

No

7. Is the variety or any component of the variety protected by intellectual property right? (plant breeder's right or patent)

No

Exhibit A - Origin and Breeding History

1. Genealogy (back to and including public and commercial varieties, lines, or clones used) and the breeding method(s).

CO05068-1RU was derived from a cross of AWN86514-2 and CO98009-3RU at the San Luis Valley Research Center in 2005. Seed from the cross were seeded in the greenhouse in 2006. The resulting tubers were harvested and planted in the field in Center, Colorado in the spring of 2007 when it was initially field selected. See the attached document for full pedigree.

2. Give the details of subsequent stages of selection and multiplication.

Multiplication of CO05068-1RU tubers for initial selection and research trials and subsequent seed increase was via vegetative means using tubers and /or tissue cultured disease tested seed stocks.

3. Is the variety uniform? Selection Criteria: high yield potential, processing potential, resistance to PVY, high specific gravity, resistance to grade defects. MS 10/3/2022

Yes

How did you test for uniformity?

CO05068-1RU has been observed for more than 14 yeas of field screening and/or tissue culture production. No variants have been observed during this time, indicating that CO05068-1RU is uniform.

4. Is the variety stable?

Yes

How did you test for stability? Over how many generations?

CO05068-1RU has been observed for more than 14 years of field screening and/or tissue culture production. No variants have been observed during this time, indicating that CO05068-1RU is stable.

5. Are genetic variants observed or expected during reproduction and multiplication?

No

Exhibit A Attached Files List

File Name	Last Modified On
Rocky Mountain Russet Pedigree Tree.pdf	5/20/2021 3:34:11 PM

Exhibit A (continued)

Figure 1. Pedigree of Rocky Mountain Russet

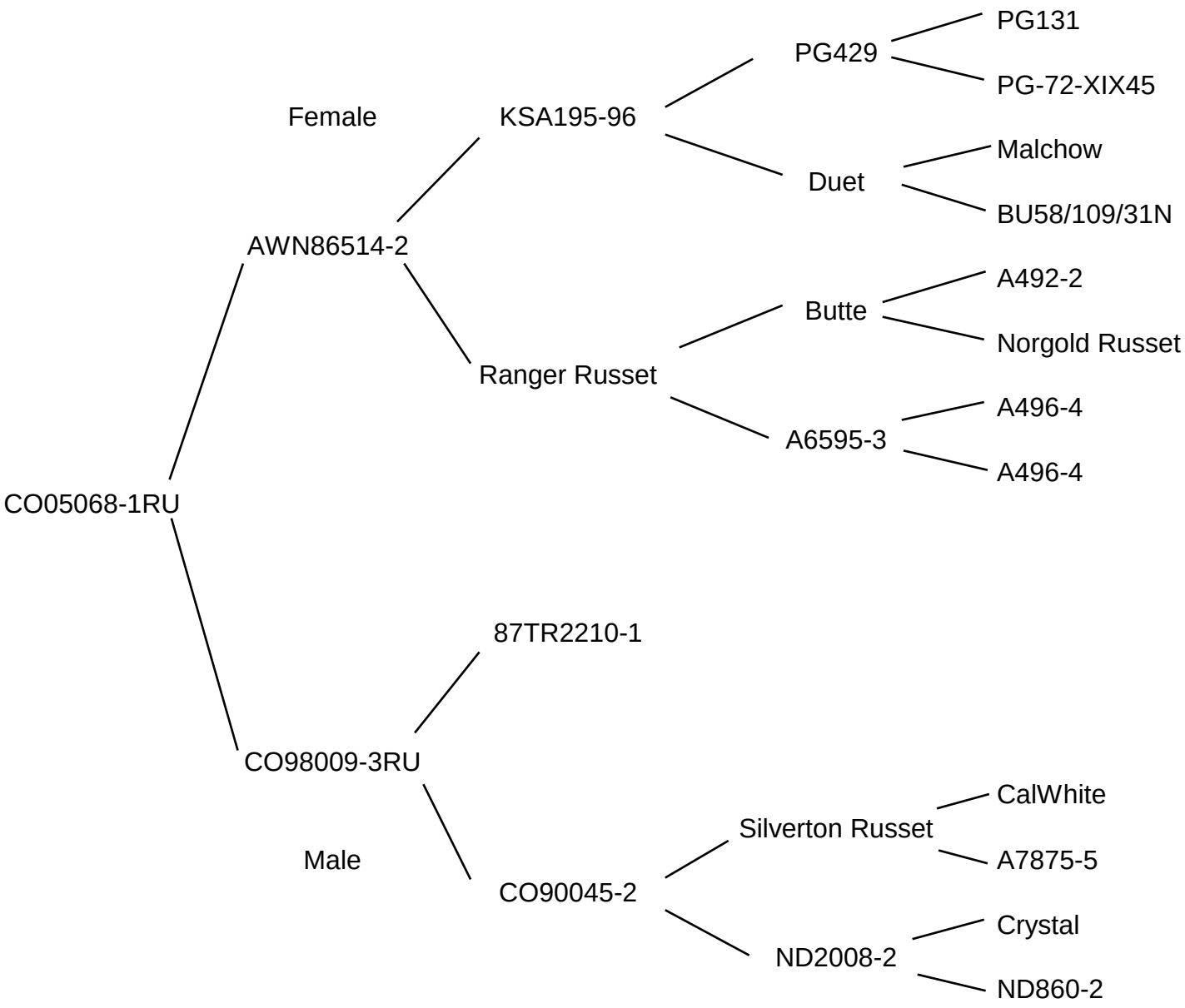

Exhibit B - Statement of Distinctness

1. Based on overall morphology. Applicant's new variety Rocky Mountain Russet

is most similar to Comparison Variety Russet Norkotah-S3 , ,

2. Application Variety Traits

See attached file for Statement of Distinctness

3. Comparison Variety1 Additional Comments?

4. Comparison Variety2 Additional Comments?

5. Comparison Variety3 Additional Comments

Exhibit B Attached Files List

File Name	Last Modified On
Rocky Mt RU Exhibit B - Statement of Distinctness.pdf	5/20/2021 3:36:02 PM

Exhibit B

Statement of Distinctness

Rocky Mountain Russet is compared to Russet Norkotah-S3, the most similar russet table stock reference cultivar grown in our trials. **Rocky Mountain Russet** most clearly differs from Russet Norkotah-S3 in the following traits:

Trait	**Rocky Mountain Russet**	Russet Norkotah-S3	Evidence
Light Sprout Base: General Shape	Broad Cylindrical	Narrow Cylindrical	Figure 1
Light Sprout Base: Intensity of Anthocyanin Coloration	Medium	Weak	Figure 1
Light Sprout Root Initials: Frequency	Some	Abundant	Figure 1
Leaf Silhouette	Medium	Open	Figure 2
Terminal Leaflet Base Shape	Cordate	Obtuse	Figure 3
Number of Inflorescence/Plant	6.1 +/- 2.2	1.6 +/- 0.9	Table 1
Calyx Anthocyanin Coloration	Medium	Weak	Figure 4
Specific Gravity	1.099 +/-0.005	1.076 +/-0.006	Table 2
Skin Color	177B	199B	Figure 6 / RHS Color Chart

Exhibit B (continued)

Statement of Distinctness

Figure 1. Light Sprout Base: General Shape, Intensity of Anthocyanin Coloration, and Root Initial Frequency- Rocky Mountain Russet (left) and Russet Norkotah-S3 (right).

Exhibit B (continued)

Statement of Distinctness

Figure 2. Leaf Silhouette: Rocky Mountain Russet (left) and Russet Norkotah-S3 (right).

Exhibit B (continued)

Statement of Distinctness

Figure 3. Number of Inflorescence per Plant. Rocky Mountain Russet (left) and Russet Norkotah-S3 (right).

Exhibit B (continued)

Statement of Distinctness

Table 1.

Number of Inflorescence/Plant Analysis													
Rocky Mountain	4	7	5	9	9	7	6	11	5	8		Number	50
Russet	6	6	6	6	4	5	8	5	9	3		Mean	6.1
	5	4	2	5	3	6	8	4	3	6		SD	2.2
	10	8	4	9	5	5	10	5	7	5		Max	11
	6	6	4	3	5	9	5	7	10	8		Min	2
Russet	2	2	2	2	1	3	2	1	1	4		Number	50
Norkotah-S3	3	1	3	3	1	1	1	2	1	2		Mean	1.6
	3	1	1	2	2	1	1	1	1	1		SD	0.9
	1	1	2	1	3	1	1	1	1	1		Max	4
	1	1	2	2	2	2	4	1	1	1		Min	1

Exhibit B (continued)

Statement of Distinctness

Figure 4. Calyx Anthocyanin Coloration: Rocky Mountain Russet (left) and Russet Norkotah-S3 (right).

Exhibit B (continued)

Statement of Distinctness

Table 2.

Specific Gravity Analysis

Trial	**Rocky Mountain Russet**	Russet Norkotah-S3
1	1.094	1.083
2	1.106	1.077
3	1.097	1.082
4	1.097	1.070
5	1.100	1.070
Number	5	5
Mean	1.099	1.076
SD	0.005	0.006
Max	1.106	1.083
Min	1.094	1.070

Exhibit B (continued)

Statement of Distinctness

Figure 5. Skin Color: Rocky Mountain Russet (top) and Russet Norkotah-S3 (bottom).

Exhibit C

Potato

A . Location

I. Location

1 . Breeding Location

Center, CO 81125

2 . Breeding Latitude (Decimal Degrees)

3 . Breeding Longitude (Decimal Degrees)

4 . Trial Location

Center, CO 81125

5 . Trial Location Latitude (Decimal Degrees)

6 . Trial Location Longitude (Decimal Degrees)

7 . Area of Adaptation

B . Market Characteristics

1 . Market Class

Russet Tablestock

C . Light Sprout Characteristics

1 . Light Sprout General Shape

Broad cylindrica

2 . Light Sprout Base Pubescence of Base

Weak

3 . Light Sprout Base Anthocyanin Coloration

Red-Violet

4 . Light Sprout Base Intensity of Anthocyanin Coloration

Medium

5 . Light Sprout Tip Habit

Intermediate

6 . Light Sprout Tip Pubescence

Medium

7 . Light Sprout Tip Anthocyanin Coloration

Red-Violet

8 . Light Sprout Tip Intensity of Anthocyanin Coloration if Present

Weak

9 . Light Sprout Root Initials Frequency

Some

D . Plant Characteristics

1 . Growth Habit

Semi-erect (30-45° with ground)

2 . Type

Intermediate

3 . Maturity Days After Plant at Vine Senescence

4 . Regional Area

Pacific North West (WA, OR, ID, CO, CA)

5 . Maturity Class

E . Stem Characteristics Measured at Early First Bloom

1 . Stem Anthocyanin Coloration

Absent

2 . Stem Wings

Weak

F . Leaf Characteristics

1 . Leaf Color Observed when Fully Developed Leaves are Located on the Middle 1/3 of Plant

Olive-green

2 . Leaf Color Chart

2.a. Leaf Color Chart

Royal Horticulture Society Color Chart

2.b. Leaf Color Chart Value

137A

3 . Leaf Pubescence Length

Short

4 . Leaf Silhouette

Medium

5 . Petioule Anthocyanin Coloration

Absent

6 . Leaf Stipules Size

Medium

7 . Terminal Leaflet Shape

Medium Ovate

8 . Terminal Leaflet Tip Shape

Acuminate

9 . Terminal Leaflet Base Shape

Cordate

10 . Terminal Leaflet Margin Waviness

Slight

11 . Average Number of Primary Leaflet Pairs

3.2

12 . Primary Leaflet Pairs Range

Primary Leaflet Pairs Range From

2

Primary Leaflet Pairs Range To

4

13 . Primary Leaflet Tip Shape

Acuminate

14 . Primary Leaflet Size

Medium

15 . Primary Leaflet Shape

Medium Ovate

16 . Primary Leaflet Base Shape

Cordate

17 . Average Number of Secondary and Tertiary Leaflet Pairs

4

18 . Number of Secondary and Tertiary Leaflet Pairs Range

Number of Secondary and Tertiary Leaflet Pairs Range From

To

Number of Secondary and Tertiary Leaflet Pairs Range To

6

19 . Average Number of Inflorescence per Plant

6.1

20 . Number of Inflorescence per Plant Range

Number of Inflorescence per Plant Range From

2

Number of Inflorescence per Plant Range To

11

21 . Average Number of Florets per Inflorescence

8.1

22 . Number of Florets per Inflorescence Range

Number of Florets per Inflorescence Range From

4

Number of Florets per Inflorescence Range To

11

23 . Corolla Inner Surface Color Chart

23.a. Corolla Inner Surface Color Chart

Royal Horticulture Society Color Chart

23.b. Corolla Inner Surface Color Chart Value

155C

24 . Outer Surface Color Chart

24.a. Outer Surface Color Chart

Royal Horticulture Society Color Chart

24.b. Outer Surface Color Chart Value

155C

25 . Corolla Inner Surface Color

White

26 . Corolla Shape

Pentagonal

G . Inflorescence Characteristics

1 . Calyx Anthocyanin Coloration

Medium

2 . Anther Color Chart

2.a. Anther Color Chart One

Royal Horticulture Society Color Chart

2.b. Anther Color Chart Value

17B

3 . Anther Shape

Broad cone

4 . Pollen Production

5 . Stigma Shape

Capitate

6 . Stigma Color Chart

6.a. Stigma Color Chart One

Royal Horticulture Society Color Chart

6.b. Stigma Color Chart Value

146B

7 . Berry Production

H . Tuber Characteristics

1 . Predominant Skin Color

Brown

2 . Predominant Skin Color Chart

2.a. Predominant Skin Color Chart

Royal Horticulture Society Color Chart

2.b. Predominant Skin Color Chart Value

177B

3 . Secondary Skin Color

Absent

4 . Secondary Skin Color Chart

4.a. Secondary Skin Color Chart

4.b. Secondary Skin Color Chart Value

5 . Secondary Skin Color Distribution

6 . Skin Texture

Russetted

7 . Tuber Shape

Oblong

8 . Tuber Thickness

Flattened

9 . Tuber Average Length (mm)

99

10 . Tuber Length Range (mm)

Tuber Length From (mm)

78

Tuber Length Range To (mm)

135

11 . Tuber Length Standard Deviation

11

12 . Tuber Length Average Weight of Sample (g)

200

13 . Potato Average Tuber Width (mm)

61

14 . Tuber Width Range (mm)

Tuber Width From (mm)

46

Tuber Width To (mm)

73

15 . Tuber Width Standard Deviation

5

16 . Tuber Width Average Weight of Sample (g)

200

17 . Average Tuber Thickness (mm)

49

18 . Tuber Thickness Range (mm)

Tuber Thickness From (mm)

35

Tuber Thickness To (mm)

65

19 . Tuber Thickness Standard Deviation

5

20 . Tuber Thickness Average Weight of Sample (g)

200

21 . Tuber Eye Depth

Shallow

22 . Tuber Lateral Eyes

Shallow

23 . Average Number of Eyes per Tuber

10

24 . Number of Eyes per Tuber Range

Number of Eyes per Tuber From

5

Number of Eyes per Tuber To

14

25 . Distribution of Tuber Eyes

Evenly distributed

26 . Prominence of Tuber Eyebrows

Slight prominence

27 . Predominant Tuber Flesh Color

White

28 . Primary Tuber Flesh Color Chart

28.a. Primary Tuber Flesh Color Chart

Royal Horticulture Society Color Chart

28.b. Primary Tuber Flesh Color Chart Value

160D

29 . Secondary Tuber Flesh Color

Absent

30 . Secondary Tuber Flesh Color Chart

30.a. Secondary Tuber Flesh Color Chart

30.b. Secondary Tuber Flesh Color Chart Value

31 . Number of Tubers per Plant

I . Disease Characteristics

1 . Late Blight (Phytophthora)

Resistant Few Symptoms

2 . Early Blight (Alternaria)

Resistant Few Symptoms

3 . Soft Rot (Erwinia)

Intermediately Susceptible

4 . Common Scab (Streptomyces)

Not Tested

5 . Powdery Scab (Spongospora)

Resistant Few Symptoms

6 . Dry Rot (Fusarium)

Moderately Susceptible

7 . Leaf Roll Virus (PLRV)

Not Tested

8 . Virus X (PVX)

Not Tested

9 . Virus Y (PVY)

Highly Resistant

10 . Virus M (PVM)

Not Tested

11 . Virus A (PVA)

Not Tested

12 . Golden Nematode (Globodera)

Not Tested

13 . Root Knot Nematode (Meloidogyne)

Not Tested

14 . Other Diseaase

14.a. Other Disease

Resistant Few Symptoms

14.b. Other Disease (Specify)

Verticillium wilt

15 . Physiological Disorder

J . Pest Characteristics

1 . Colorado Potato Beetle (Leptinotarsa)

Not Tested

2 . Green Peach Aphid (Myzus)

Not Tested

3 . Other Pest Characteristics

K . Gene Traits

1 . Insertion of Genes

No

L . Chief Market Other Quality Characteristics

I. Chief Market Quality Characteristics

1 . Specific Gravity ((wt. air/(wt. air – wt. water))

>1.090

2 . Total Glycoalkaloid Content (mg/100 grams fresh tuber)

11.7

II. Chief Market Other Quality Characteristics

1 . Describe any Other Quality Characteristics that May Aid in Identification

M . Chemical Identification

1 . Chemical Identification

N . Molecular Markers

1 . Isozymes

No

O . DNA Profile

1 . DNA Profile

No

P . Additional Comments and Characteristics

1 . Additional Comments and Characteristics

Exhibit D - Additional Descriptive Information

Additional descriptive question / text:

Additional descriptive answer / information in detail:

Exhibit D Attached Files List

File Name	Last Modified On

Exhibit E - Statement of the Basis of Ownership

1. Does the applicant own all rights to the variety?

Yes

2. Is the applicant a U.S. national or a U.S. based entity?

Yes

3. Is the applicant the original owner?

Yes

4. Additional explanation on ownership (Trace ownership from original breeder to current owner):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.